REMARKS

Claims 1-17, 19 and 21-23 are currently pending; with new claims 22 and 23 having been added by the present amendment.

New Claims

New claims 22 and 23 have been added by the present amendment. Support for the claims may be found throughout the specification and at least at original claims 1, 4 and 13 (for claim 22) and claim 10 (for claim 23).

Art Rejections

Claims 1-17, 19 and 21 stand rejected under 35 USC § 103(a) as being unpatentable over Baer (USPN 5,728,081) in view of Hanson (USPN 5,509,915). Applicants respectfully traverse this rejection.

The Office asserts that Baer discloses top sheet 10, which allegedly corresponds to the claimed liquid-permeable covering layer. And, that Baer discloses acquisition layer 12, which allegedly corresponds to the claimed liquid-permeable liquid-transfer layer.

Baer	**Claims-at-issue**
top sheet 10	liquid-permeable covering layer
acquisition layer 12	liquid-permeable liquid-transfer layer

The Office asserts that Baer discloses that top sheet 10 (alleged covering layer) has the claimed pore volume distribution curve with a maximum[1] at a pore ***radius*** greater than or equal to 50 μm (PDV Curve Max ≥ 50).

[1] "Pore volume distribution curve with a maximum" abbreviated as "PDV Curve Max"

Specifically, the Office asserts that Baer discloses a PVD Curve max of greater than 55 μm, offering column 3, lines 1-5, of Baer as support. Respectfully, applicants challenge this disclosure, and think that "55" is a typographical error for "50," as "55" was not found in the cited portion or throughout the rest of the disclosure of Baer.

Baer discloses the following:

> In addition, the average pore size of the acquisition layer, measured at 0.5 psi is substantially greater than the average pore size of the top sheet 10. For example, the pore size of the top sheet 10 will typically average in the range of about 20 to 50 microns, whereas the pore size of the acquisition layer will be in excess of 50 microns, preferably in the order of about 60 to about 180 microns.

Baer, column 2, line 66 to column 3, line 5.

Thus, the top sheet 10 (alleged covering layer) is disclosed to have an average pore size (***diameter***) of 20-50 μm, which correlates to an average pore size (***radius***) of 10-25 μm. A top sheet with such an average pore size range will definitely have a PVD Curve Max (which is based on ***radius***) of less than 50 μm.

Accordingly, Baer does not teach or suggest the claimed covering layer with a PVD Curve Max greater than 50 μm.

The Office further asserts that Baer discloses that acquisition later 12 (alleged liquid-transfer layer) has the claimed pore volume distribution curve with a maximum at a pore ***radius*** from 105 to 325 μm (PDV Curve Max is 105-325).

The acquisition layer 12 (alleged liquid-transfer layer) is disclosed to have an average pore size (***diameter***) in excess of 50 microns, preferably in the order of about 60 to about 180 microns. This correlates to an average pore size (***radius***) of

in excess of 25 μm, and in the order of 30 to 90 μm. A liquid-transfer layer with such an average pore size will definitely have a PVD Curve Max (which is based on radius) of less the claimed range of from 105 to 325 μm.

The Examiner is reminded that, as discussed during the 5 November 2008 Examiner Interview, that the claims recite a pore volume **distribution curve**, and it is this **curve** that has a maximum at a pore radius greater than or equal to 50 μm (cover layer) or from 105 to 325 μm (transfer layer). Thus, with regard to the transfer layer, it is not that the maximum pore size (radius) is in the range of 105 to 325 μm, but that the pore volume **distribution curve** has a maximum - a peak on the curve - from 105 to 325 μm. The Examiner should review Figs. 4 and 5 of the present application to see this effect. For example in Fig. 4, while the maximum pore size (radius) is around 140 μm, the pore volume distribution **curve** has a maximum - a peak on the curve - around 40 to 60 μm. Baer only discloses are maximum pore sizes of 30 to 90 μm, indicating that the pore volume distribution **curve** will have a maximum is much smaller than 30 to 90 μm.

Accordingly, Baer does not teach or suggest the claimed liquid-transfer layer with a PVD Curve Max from 105 to 325 μm.

Further, as the Office has admitted, Baer does not teach or suggest the claimed wetting angle of at least 120º for the covering layer.

Thus, Baer doesn't teach the PVD Curve Max for the covering layer, doesn't teach the wetting angle for the covering layer, and doesn't teach the PVD Curve Max for the liquid-transfer layer. Baer essentially teaches nothing related to the claimed invention.

Moreover, applicants maintain that one skilled in the art would not modify Baer in a manner to arrive at the claimed invention.

The Office has asserted that one skilled in the art would modify Baer to incorporate the "spunbond covering layer" of Hanson for the topsheet 10 of Baer. While the Office has offered a superficial reason for making such a modification, the Office does not properly consider all the factors involved in such a modification and the reasons why one skilled in the art would not consider such a modification obvious or advisable.

First, Baer specifically teaches away from such a modification. Baer specifically teaches that "The acquisition layer has a pore size greater than the top sheets." Column 1, line 67 to column 2, line 1. To accomplish this, Baer requires the use of a microfiber wherein the "fibers in the top sheet have an average diameter of from about seven to twelve microns." Column 2, lines 6-7. The Baer sheet with fibers having an average diameter of from about seven to twelve microns correlates to a dtex of about 0.35 to 1[2].

Thus, Baer requries a very low dtex material in order for there to be proper communication between the top sheet and the acquisition layer. It is clear one skilled in the art would not modify Baer to incorporate the "spunbond covering layer" of Hanson for the topsheet 10 of Baer. Such a change would result in a top sheet

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[2] One can calculate the diameter of a filament given its weight in dtex with the following formula:

$$\varnothing = \sqrt{\frac{4 \times 10^{-6} \cdot \mathrm{dtex}}{\pi \rho}}$$

where ρ represents the material's density in grams per cubic centimeter and the diameter is in cm. The polypropylene of Baer has a ρ of about 9000.

with a dtex of 3.1-3.6 (1 dtex = 0.9 denier)[3]. This significantly outside the small dtex of 0.35 to 1 required by Baer.

Accordingly, one skilled in the art would not make the proposed modification (substituting the material of Hanson into Baer). That is, one skilled in the art would not use the covering layer 10 of Hanson with the article of Baer. Yet, the Examiner is relying on Hanson to teach the claimed wetting angle. Thus, without the teachings of Hanson, the Examiner has not and cannot present a *prima facie* case of obviousness.

Moreover, even if one skilled in the art would have modified Baer to incorporate the "spunbond covering layer" of Hanson for the topsheet 10 of Baer, such a modification does not result in the claimed invention. As detailed in applicants' response of 19 November 2008, the spunbond covering layer of Hanson is disclosed to have a wetting angle of less than 90º and teaches away from the presently claimed covering layer. The presently claimed covering layer has a wetting of at least 120º. Further, as shown by declaration evidence provided in applicants' response of 19 November 2008, the claimed range presents unexpected results.

Moreover, one skilled in the art, reviewing the Examiner's assertions, immediately recognizes that the modifications to Baer that would be necessary to arrive at the claimed PVD Curve Max (or to the claimed dtex) are not possible without paradigm-shifting, wholesale changes that one skilled in the art has no reason or teaching to make. As noted above, Baer teaches a very low dtex material

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[3] Hanson discloses that the topsheet is a "polypropylene fabric composed of about 2.8-3.2 denier fibers." Column 7, lines 36-38. See also, http://www.borealisgroup.com/industry-solutions/advanced-packaging/fibre/denier-to-decitex/

(0.35 to 1 dtex) for the top sheet 10 (alleged covering layer). Such a material is know as a microfiber with a dense structure with a small pore size[4]. With such a dense, small pore structure, it is quite clear that one skilled in the art would not modify the top sheet 10 of Baer to have a wetting angle of greater than 120º.

Such dense, small pore structure (very low dtex material - 0.35 to 1 dtex) material is required to be hydrophilic in order to have any reasonable ability to absorb any liquid. That is, if the top sheet 10 material of Baer were hydrophobic, it would be very difficult, if not impossible, for liquid to penetrate in to the dense, small pore structure of the material. Thus, one skilled in the art would only use the top sheet 10 of Baer in a hydrophilic form.

With such a dense, small pore structure, the top sheet 10 of Baer would need a highly hydrophilic wetting angle of around 0 to 30º. One skilled in the art would understand that a hydrophobic wetting angle (> 90º) is out of the question for the top sheet material 10 of Baer.

The rejection of claims 1-17, 19 and 21 under 35 USC § 103(a) as being unpatentable over Baer (USPN 5,728,081) in view of Hanson (USPN 5,509,915) is respectfully requested to be withdrawn.

Claims 13 and 22

Claims 13 and 22 recite that the liquid-transfer layer comprises fibers with a fiber fineness of from 6.7 to 11 dtex. Additionally, claim 22 (and claim 1, from which claim 13 depends) recites that liquid-transfer layer has a PVD Curve Max of from 105 to 325 μm. Having such a large PVD Curve Max creates an open loft material.

[4] See USPubN 2001/0025153 which recites that "microfilament nonwoven material with a … 1.5 to 5 dtex."

Baer specifically requires the use of an acquisition layer (alleged liquid-transfer layer) wherein the "fibers in the acquisition layer have an average diameter of from about ten to about twenty-four microns." Column 2, lines 9-11. A sheet with fibers having an average diameter of from about ten to about twenty-four microns correlates to a dtex of about 0.7 to 4.1 (see calculation above).

Fiber size is measured according to the tex system. It is a system of expressing linear density of fibers. The basic unit is tex, which is the mass in grams of one kilometer of the product. Multiples and sub-multiples recommended for use include, e.g., decigram per kilometer, designated decitex (dtex). Tex is a recognized SI unit.

One skilled in the art recognizes that Baer does not enable (as it is impossible) using the fibers of Baer with a dtex of 0.7 to 4.1 to make the claimed open loft material. Such fibers are simply not resilient enough and would collapse. Making the claimed open loft material typically requires, for example, fibers that are much more coarse/thick, with a dtex of between 6.7 to 11 dtex.

Claims 13 and 22 are allowable over the asserted art for at least the reasons detailed above.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully submit that the claims of the present application are now in condition for allowance, and an early indication of the same is earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference would be helpful in resolving any

remaining issues pertaining to this application; the Examiner is kindly invited to call the undersigned counsel for Applicants regarding the same.

Respectfully submitted,

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